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LETTER OF TRANSMITTAL FOR DRAFT EXPLANATION OF SIGNIFICANT DIFFERENCES
FOR SITE 7 CALF PASTURE POINT WITH ATTACHMENT NCBC DAVISVILLE RI
7/19/2013
RESOLUTION CONSULTANTS

Resolution Consultants
A Joint Venture of AECOM & EnSafe
1500 Wells Fargo Building
440 Monticello Avenue
Norfolk, Virginia 23510

July 19, 2013

Department of the Navy
Naval Facilities Engineering Command
BRAC Program Management Office
Attn: Mr. Jeffrey Dale
4911 South Broad Street
Building 679, PNBC
Philadelphia, PA 19112

**RE: Draft Explanation of Significant Differences
Site 7 – Calf Pasture Point, Former NCBC Davisville, North Kingstown, Rhode
Island**

Dear Mr. Dale:

On behalf of the Naval Facilities Engineering Command (NAVFAC), Mid-Atlantic (MIDLANT), Resolution Consultants is submitting this Draft Explanation of Significant Differences (ESD). The ESD for Site 7 at NCBC Davisville supports additional site response action not previously included in the Site 7 Record of Decision (ROD) signed in September 1999.

Sincerely,



Resolution Consultants
Robert Shoemaker
NCBC Davisville Task Order Manager
250 Apollo Drive
Chelmsford, MA 01824
robert.shoemaker@aecom.com
978.905.2393

Document Distribution:

Christine Williams, USEPA (letter, hard copy, CD)
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DRAFT

EXPLANATION OF SIGNIFICANT DIFFERENCES

**SITE 7 – CALF PASTURE POINT, FORMER NAVAL CONSTRUCTION BATTALION CENTER
DAVISVILLE, NORTH KINGSTON, RHODE ISLAND**

1.0 Introduction to the Site and Statement of Purpose

1.1 Site Name and Location

Naval Construction Battalion Center (NCBC) Davisville
North Kingston, Rhode Island 02818
RI6170022036

Installation Restoration Program (IRP) Site 7 – Calf Pasture Point: Operable Unit 8 (OU-8).

1.2 Identification of Lead and Support Agencies

The U.S. Navy is the lead agency for environmental investigations and cleanup programs at NCBC Davisville. The lead regulatory agency is the U.S. Environmental Protection Agency (EPA), Region I. The Rhode Island Department of Environmental Management (RIDEM) provides additional regulatory support.

1.3 Legal Authority

The Navy is issuing this Explanation of Significant Differences (ESD) for Site 7 at NCBC Davisville to support an additional site response action not previously included in the Site 7 Record of Decision (ROD) signed in September 1999. This ESD is part of the public participation requirements under Section 117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Section 300.435(c)(2)(i) of the National Oil and Hazardous Substances Contingency Plan (NCP), and the Navy IRP. In accordance with Section 300.825(a)(2) of the NCP, this ESD will become part of the Administrative Record for the facility and is available for public review at the local information repository identified below.

1.4 Summary of Circumstances Necessitating this ESD

The ROD for Site 7 selected a remedial action for the site, which consists of deed restrictions prohibiting the use of groundwater, and requiring adequate ventilation for any future building construction, long-term monitoring of groundwater and potentially sediment, five-year reviews, and confirmation that three former munitions bunkers have been closed. The primary constituents of concern (COCs) at Site 7 are chlorinated volatile organic compounds (VOCs), primarily 1,1,2,2-perchloroethane (PCA) and trichloroethene (TCE).

Soil and debris removal were not a component of the ROD; however, a Source Area Investigation completed in 2011 identified the presence of buried containers of decontamination agent non-corrosive (DANC) that were reported to have been buried at Site 7 between 1968 and 1974. The DANC was packaged in a two component container of PCA and 1,3-dichloro-5,5-dimethyl-hydantoin (RH-195). The containers were believed to have leaked the PCA solvent component to the surrounding area. A time-critical removal action (TCRA) was performed by the Navy in 2011 to reduce potential risks of exposure to human health, welfare, and the environment via removal of the source waste materials (DANC containers, container debris, and impacted soil). This ESD provides the regulatory documentation required to support this additional site response action.

The adjustments presented in this ESD to the ROD do not fundamentally alter the overall Remedial Action for Site 7 with respect to scope, performance, or cost.

1.5 Availability of Documents

In accordance with Section 300.825(a)(2) of the NCP, this ESD will become part of the Administrative Record for the facility. This ESD is also available for public review at the following locations:

Quonset Development Corporation*
Annex Building
95 Cripe Street
North Kingstown, RI 02852

*By appointment only. Contact David Barney (617) 753-4656

2.0 Site History, Contamination, and Selected Remedy

2.1 Site Description and History

NCBC Davisville is located in North Kingstown, Rhode Island. The former installation was selected for closure under the Base Realignment and Closure (BRAC) Act of 1991 and was closed in April 1994.

Site 7 of NCBC Davisville is located on the southern portion of a peninsula known as Calf Pasture Point (Parcel 9), adjacent to Narragansett Bay. Calf Pasture Point formerly contained three earthen-covered munitions bunkers (Buildings 59, 60, and 339) located along Magazine Road, which formerly transversed the site from north to south between Sanford Road/Finn Street and the southern tip of Calf Pasture Point. The bunkers were demolished by the Navy in February 1997 (Building 339) and September 2000 (Buildings 59 and 60). Site 7 is comprised of the forest and grass covered area of Calf Pasture Point south of the former munitions bunkers to the Allen Harbor and Narragansett Bay shorelines. Site 7 is currently undeveloped property and has been transferred to the Town of North Kingstown as a Public Benefit Conveyance for use as an open space/conservation area.

During the 1940s the estuary containing Calf Pasture Point was used to deposit dredge spoils and became filled land. Sometime between 1968 and 1974, a trench located in the area south of the former munitions bunkers was reportedly filled with cans that contained DANC solution. The DANC was packaged in a two component container of PCA and RH-195. The containers were believed to have leaked the solvent component to the surrounding area.

2.2 Enforcement History

NCBC Davisville was added to the National Priorities List (NPL) in 1989. Environmental studies and activities at NCBC Davisville have been conducted by the Navy in accordance with CERCLA and the NCP. A Federal Facilities Agreement (FFA) was signed by the Navy, RIDEM, and the EPA in March 1992 to provide the framework for the cleanup process.

Previous investigations and other key activities and documents relating to Site 7 have included a Base-wide Initial Site Assessment Study (1984), Base-wide Confirmation Study (1987), Remedial Investigation/Feasibility Study/Proposed Plan (1998), Record of Decision (1999), Finding of Suitability to Transfer for Parcel 9 (2000), First Five-Year Review (2003), Second Five-Year Review (2008), Source Area Investigation and Time-Critical Removal Action (2011), and Third Five-Year Review (2013).

2.3 Site Contamination

Based on the results of the human health and ecological risk assessments, chlorinated VOCs were identified as the primary COCs for Site 7, predominantly PCA and TCE in groundwater,

which were found to pose an unacceptable risk to human health. Other COCs that were found to pose an unacceptable risk to human health in groundwater include tetrachloroethene (PCE), 1,1,2-trichloroethane (1,1,2-TCA), 1,1-dichloroethene (1,1-DCE), 1,2-DCE (total), benzene, chloroform, vinyl chloride, aluminum, arsenic, beryllium, chromium, and manganese. Human exposure pathways that were identified as unacceptable included ingestion of deep and bedrock groundwater containing VOCs and several inorganics by residents and dermal contact with and inhalation of VOCs from deep and bedrock groundwater by recreational populations while showering. VOCs were not identified as posing significant human health or ecological risks in either the shoreline sediment or shellfish, nor were any significant terrestrial ecological risks identified at Site 7.

2.4 Remedy Selected in the 1999 ROD

The remedial action objectives (RAOs) identified in the September 1999 ROD are to prevent human exposure to COCs in deep and bedrock groundwater and to ensure that the discharge of groundwater to wetlands and offshore areas continues to pose no unacceptable risks from COCs.

The selected remedy identified in the ROD includes the following components:

- Deed restriction prohibiting human contact with, or use of, impacted groundwater from the site and requiring adequate ventilation for any future building construction. The deed restriction was incorporated in an Environmental Land Use Restriction (ELUR), which was recorded in the land records of the Town of North Kingstown.
- Long-term monitoring of the groundwater plume to ensure the site continues to pose no unacceptable risks to human health and the environment and sampling of other media such as sediment from the shoreline or interior wetlands, based upon trends identified from groundwater. Performance standards were to be developed during the remedial design phase.
- Five-year reviews for the site by the Navy, EPA, and RIDEM to ensure the continued protection of human health and the environment.
- Confirmation of the Close-Out Report for the three former munitions bunkers through signing of the ROD.

3.0 Basis for the Document

This ESD addresses the source area removal action, which is described below.

Previous investigation activities noted that containers of DANC were buried at Site 7 between 1968 and 1974. The DANC was packaged in a two component container of PCA and RH-195. DANC was developed during World War II as a decontamination agent for blister gas. Each pail of DANC was estimated to have contained thirty-six pounds of PCA and 2.4 pounds of RH-195 at the time of burial. It is believed that numerous containers leaked the PCA solvent to the surrounding area and were the source of the chlorinated solvent plume in groundwater at Site 7. PCA and TCE, an impurity or abiotic degradation product of PCA, in the 100s of milligram per kilogram (mg/kg) range, have impacted saturated soils down-gradient of the container disposal area.

In April 2011, the containers were located by geophysical investigation methods and test pits were conducted in May 2011 to confirm the presence of the containers and to refine the extent. Corroded metal containers and white powder believed to be the RH-195 component were observed in test pits conducted in May 2011. The RH-195 component was believed to be in a plastic container within the steel

container of PCA. The survey indicated that the containers were located within three feet of the land surface. The depth to groundwater was approximately 6 feet.

A TCRA was implemented in November 2011 to reduce potential risks of exposure to human health, welfare, and the environment. The TCRA consisted of the excavation, transportation, and off-site disposal of source waste materials (DANC containers, container debris, and impacted soil). Following excavation, confirmatory soil samples were collected for VOCs from the sidewalls and floor of the excavation. The removal area was backfilled with clean fill, graded to the pre-existing base grade elevation and the disturbed areas were reseeded. Confirmation samples were compared to RIDEM's Residential Direct Exposure Criteria (DEC) to confirm that all contaminated soil and debris was removed. The removal area consisted of an approximate 20 foot wide by 30 foot long footprint excavated to a maximum depth of 8 feet. An Action Memorandum, dated November 22, 2011, was prepared to document and explain the need for the TCRA. The details of the TCRA are documented in the Draft Removal Action Completion Report dated April 2012.

4.0 Description of Significant Differences or New Alternatives

4.1 Description of Changes

For the source area removal action, the change to the remedy is that soil and debris removal were not a component of the ROD. Removal of source waste materials (DANC containers, container debris, and impacted soil) was completed as a TCRA as described in Section 3.0. RIDEM's Residential DEC have been added as applicable regulatory requirements and were met with the completion of the TCRA. The removal action has been completed and there are no long-term operations, maintenance, or monitoring costs associated with the removal action. If conditions are encountered in the future that warrant continued action at Site 7, those actions will be evaluated by the Navy, EPA, and RIDEM and addressed as necessary.

4.2 Changes In Expected Outcomes

The performance of the source area removal action will not adversely affect the performance or cost of the selected remedy. As stated above, there are no long-term operations, maintenance, or monitoring costs associated with the removal action.

The current remedy does not include land use controls specifically restricting intrusive activities by the public. As a result of this TCRA, potential human health risks have been reduced by eliminating the potential for exposure to source area contaminants via intrusive activities.

The TCRA has also eliminated the source of the chlorinated VOC groundwater plume, thereby reducing potential future risk to environment by minimizing the potential for expansion and migration of the plume. The TCRA may also result in a reduction in long-term monitoring requirements due to source reduction.

5.0 Support Agency Comments

[THIS SECTION TO BE COMPLETED FOLLOWING REVIEW BY EPA AND RIDEM]

6.0 Statutory Determinations

Appendix D of the ROD, which lists Applicable or Relevant and Appropriate Requirements (ARAR) for the selected remedy, did not include ARARs pertaining to the cleanup of soil, since the source area had not been identified at that time. This ESD specifically adds the Residential DEC from RIDEM's Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases as applicable standards for cleanup of contaminated site soils. RIDEM does not have recreational exposure criteria,

but the residential DEC's are applicable in unrestricted recreational scenarios. Attachment A lists the soil ARAR that will supplement Appendix D of the ROD, by this ESD.

These changes to the selected remedy satisfy the statutory requirements of CERCLA Section 121 and the modified remedy will remain protective of human health and the environment, continue to comply with federal and state ARARs, provide short- and long-term effectiveness, be implementable, and be cost effective.

7.0 Public Participation

The public participation requirements as outlined in the NCP Section 300.435(c)(2)(i) have been met by including this ESD in the Administrative Record for Site 7 and by publishing in local newspapers a notice of availability of the ESD [TO BE COMPLETED ONCE THIS ESD IS FINALIZED].

In addition, the Navy regularly meets to discuss the status and progress of the Installation Restoration Program with the Restoration Advisory Board (RAB), which includes representatives from the local community. Representatives from the Navy, EPA, and RIDEM attend these public meetings.

8.0 Declaration

For the reasons documented herein, by my signature below, I approve the issuance of this ESD for Site 7 at the Naval Construction Battalion Center in Davisville, Rhode Island:

United States Department of the Navy:

David Barney	Date
BRAC Environmental Coordinator	
NCBC Davisville	

United States Environmental Protection Agency:

James T. Owens
Director
Office of Site Remediation and Restoration
U.S. EPA Region I

ATTACHMENT A – ADDITIONAL ARAR FOR THE SITE 7 ROD

Media	Requirement	Status	Requirement Synopsis	Action to be Taken to Attain Requirement
Soil	State of Rhode Island Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases, Rule 8.02.B, Table 1, Residential DEC	Applicable	These criteria establish remediation standards for soil based on direct exposure	Contaminants were identified in site soils within the vadose zone at concentrations in excess of the Residential DEC. Soil and debris excavation was conducted to remove all source area soils exceeding Residential DEC. This ARAR has now been met.